Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Construction Memorandum

To: District Construction Engineers

From: Paul Jagoda, P.E.
Construction Engineering Services Engineer

Date: January 28, 2008

Subject: Motor Carrier Services Construction Guide Update

This Construction Memo is an update to the previous memo and develops guidance to assist Motor Carrier Services (MCS) during construction activities and provide for the uniform application and enforcement of the project's specifications and laws in regards to load restrictions, diesel fuel used on projects, permits, license and taxes. These items are to be discussed at the Preconstruction conference. One of the reasons for these requirements is to prevent damage to the new project.

To provide uniformity and reduce the potential for errors, please find the attached Preconstruction Instructions that are to be discussed at Preconstruction meetings. Load limit restrictions must be enforced on all Structures, completed and accepted gravel surfaces, Treated Base Courses, CTB, Primed or Tacked Surfacing, Plant Mix Base and Plant Mix Surfacing. These guidelines are to be used in conjunction with the following specifications:

- Subsection 101.03 Definition of Structures
- Subsection 107.02 Permits, Licenses, and Taxes
- Subsection 107.08 Load Restrictions
    - Material quantities in excess of the maximum legal weights are to be deducted from the quantity considered for payment.
    - Bridge formula calculations are required along with a drawing showing distances between axles, truck tare weight and overall length for each haul unit. A copy of the drawing is to be retained in each truck.
- Subsection 107.27 Diesel Fuel Used on Project

To assure all needed project information is communicated between the Districts and MCS, please provide the following:

- Define the Project Limits in the Preconstruction Conference.
- Provide a contact list of District and Project Personnel to MCS at the Preconstruction Conference.
- Provide MCS with aggregate source locations and haul roads to be used during construction.

For assistance or questions related to MCS Inspections, please contact the Area MCS Office or the District's Construction Engineering Services Reviewer.

PJ/pj

CC: Loran Frazier, PE
Kevin Christensen, PE
Mark Moberley-MCS
Judy Bauer -FTMA
District Office Engineers
FHWA Operations Engineers
Jodee Alm
EPMs
CES Bureau
Dennis Sheehy
Dan Smith, PE
Lisa Durbin, PE
Patrick Metzger-MCS

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MCS Preconstruction Outline

Utilize this outline in conjunction with the following pages to fully cover:

- MCS operations within and beyond construction operations;
- Explain DOT and MCS expectations; and
- Supply the contractor and subcontractor with their legal obligations in regards to those areas enforced by Motor Carrier Services Officers (size, weight, licensing, and fuel taxation).

Page 3 – This is a list of definitions utilized throughout this document. These definitions will be of value, in helping the contractor to understand their role in legal operations, when and where the rules apply, and define the boundaries of operation and enforcement.

Pages 4 and 5 – Details the size and Weight limitations and MCS's role in enforcement. Also included are any exemptions the contractor may utilize during the construction project, within the construction zone.

Pages 5 and 6 – Details the licensing and registration requirements and the requirements/restrictions to Gainful Occupation of vehicles use on the construction project.

Pages 6 and 7 – Details the regulations, restrictions and exemptions for the use of fuels on the construction project.

Page 8 – Lists the information and phone numbers for the construction personnel to use, in order to contact MCS Weigh Stations, Patrol Officers, Captains, and the Helena MCS Office.

Pre-Construction Instructions

This document provides for the cooperative uniform application and enforcement of the project specifications and laws between Construction, MCS and the contractor in regards to load restrictions, diesel fuel used on projects, permits, license and taxes. These items are to be discussed at the Pre-construction conference. As clarification use the following definitions.

Bituminous surfacing courses: A mixture of graded aggregate and asphalt, which is used as a wearing course. This treatment is usually placed in two or more specified lift thicknesses.

Bituminous surfacing lifts: A mixture of graded aggregate and asphalt, which is used as a wearing course. This treatment is placed in a specified thickness.

Blue tops/Finish Grade: Grade stakes for subgrade and aggregate surfacing used in highway construction. With the incorporation of the Finished Grade Control in the 2006 edition of the Standard Specifications, physical blue top stakes are not required and the point when the grade is complete will need to be communicated from Construction to MCS.

Cement Treated Base (CTB): A compacted mixture of graded aggregate, cement, and water, which is used as a base course for the construction of highways, airport runways and taxiways

Completed and accepted gravel surfaces: Aggregate surface, used as a surface or base course, that is graded to the typical cross section and profile grade and meets both moisture and density requirements. When the surface is complete and accepted Construction is to inform MCS.

Construction zone: An area on a public highway or on the adjacent right-of-way where construction, repair, maintenance, or survey work is being performed by the department of transportation, a local authority, a utility company, or a private contractor under contract with the department of transportation or a local authority. A construction zone may include a work zone. (See 61-8-314 MCA)

Open grade friction course: An asphalt pavement surface course that has a porous texture, which allows the rapid drainage of water through the course and out the shoulder. (*Currently not used by MDT*)

Plant mix base: A compacted mixture of graded aggregate and asphalt, which is the lower or underlying pavement course atop the subbase or subgrade and under the top or wearing course.

Plant mix surfacing*:* Is a mixture of graded aggregate and asphalt, which is used as a wearing course. This definition is used interchangeably with ***Bituminous surfacing.***

Prime/aggregate treatment: A fluid asphalt of low viscosity (highly liquid) that penetrates into a non-bituminous surface (gravel) upon application. It is used to prepare an untreated base for an asphalt surface. Aggregate treatment is a combination of dust palliative and tack coat that is used as a bonding layer between the gravel surface and new plant mix surface.

Project limits: An area where work is to be performed as specified in the contract documents. A specified area where the construction, repair, maintenance, or survey work is actually taking place.

Structure: Bridges, culverts, catch basins, drop inlet, retaining walls, cribbing, manholes, endwalls, buildings, sewers, service pipes, underdrains, foundation drains, and other features that may be encountered in the work. Defined in Standard Specification 101.03.

Tack coat: A combination of asphalt cement, water and a small quantity of emulsifying agent. It is used to ensure a good bond between the surface being paved and the overlaying new course.

Treated base course**:** The layer immediately beneath the surface course. It provides additional load distribution and contributes to drainage and frost resistance. Base courses are usually constructed out of aggregate, hot mix asphalt or cement treated base.

Work zone: The area where the construction, repair, maintenance, or survey work is actually taking place. The boundaries of the work zone must be clearly identified by the posting of signs. (See 61-8-314 MCA)

** Note: Where referenced the above will appear in *italics*.

SIZE

107.02 (Standard Specifications) Permits, Licenses, and Taxes.

Obtain all legally required permits and licenses, pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

** Note: Oversize permits are not required within the confines of the *construction zone* but are required outside the confines of the *construction zone*.

Sign Trailers Pulled Behind Light Vehicles

Within the confines of a *construction zone*, a vehicle may pull up to eight (8) signs on a two-lane road and twelve (12) signs on a four-lane road. In order for this policy to apply, the *construction zone* must have in place initial *construction zone* signs at the beginning and end of the *project limits*.

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WEIGHT

107.02 (Standard Specifications) Permits, Licenses, and Taxes.

Obtain all legally required permits and licenses, pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

** Note: Overweight permits are not required within the confines of the *construction zone* but are required outside the confines of the *construction zone*.

107.08 (Standard Specifications) Load restrictions.

Do not exceed legal load restrictions when hauling material and equipment on public roadways and bridges within and beyond the *project limits* and on all new and existing portland cement concrete roadways, {*completed and accepted gravel surfaces}, treated base courses*, *bituminous surfacing lifts and courses*, including *plant mix base*, *plant mix surfacing*, and *seal and cover*.

Do not place loads on a concrete pavement, *treated base*, or *structure* before the curing period has been achieved.

Repair damaged roadways and *structures* resulting from construction operations at Contractor expense.

Measure and analyze truck legal load limits by the bridge formula before hauling any material over existing or newly paved roadways and bridges. Furnish a drawing showing distances between axles, truck tare weight, and the overall length of each truck {prior to hauling or placing operations}.

Show a minimum of two applications using the bridge formula on the drawing. Include on the first application the overall length between axles. For the second application, do not consider the steering axle, and add the value obtained from the bridge formula to the anticipated load on the steering axle. Use the lesser of the two values obtained as the legal load. Retain a copy of the appropriate drawing in each truck. Do not exceed established legal load weights for single axle and tandem axles.

{If raising a retractable or tag axle results in the truck being over the maximum legal weight, only raise the axles when backing to unload at a chip spreader, windrow, or plant mix paver. Back the minimum distance possible while over legal weight restrictions. Do not exceed the legal weight on the steering axle by more than 25 percent or tandem axles by more than 50 percent while backing with the retractable or tag axles lifted.}

The weight on a truck in excess of the maximum legal weight as determined above will be deducted from the quantity considered for payment.

Comply with this provision and all applicable laws, rules, and regulations related to operation of motor vehicles on public roads.

Trucks operated on public roads may be checked by the Department's Motor Carrier Services and fines levied for exceeding legal loads.

Do not use existing bridges, new bridges, or bridges to be removed but still in use by the public as work platforms, work bridges, or to support or move equipment without the Engineer's written approval.

Approval will be granted only where load analysis and review of traffic control, safety, and convenience show it to be in the public interest.

No additional compensation will be considered or allowed for any violation of these provisions.

Note: Text that is enclosed in { } are additions from supplemental specifications.

61-10-107 (MCA) Maximum gross weight.

(1) An axle may not carry a load in excess of 20,000 pounds, and no two consecutive axles more than 40 inches or less than 96 inches apart may carry a load in excess of 34,000 pounds. An axle load is the total load transmitted to the road by all wheels whose centers are included between two parallel transverse vertical planes 40 inches apart, extending across the full width of the vehicle. For purposes of this section, axles 40 inches or less apart are considered to be a single axle. The maximum gross weight allowed on a vehicle, group of axles, or combination of vehicles must be determined by the formula:

$$W = 500((LN/(N - 1)) + 12N + 36)$$

in which W equals gross weight, L equals wheel base in feet, and N equals number of axles, except that two consecutive sets of tandem axles may carry a gross load of 34,000 pounds each if the overall distance between the first and last axles of the consecutive sets of tandem axles is 36 feet or more. The maximum gross weight allowed on a vehicle may not exceed the weight limits adopted by the department. The department shall adopt rules for weight limits based upon the most recent version of 23 CFR, part 658, appendix c, for vehicles operating in Montana.

(2) (a) Notwithstanding a vehicle's conformance with the requirements of subsection (1), except for the steering axle, all axles weighing over 11,000 pounds must have at least four tires or have wide-base tires. The maximum load on an axle, other than a steering axle, equipped with wide-base tires is limited to 500 pounds for each inch of tire width.

(b) The provisions of subsection (2)(a) do not apply to passenger buses.

(c) For the purposes of this section, wide-base tires are tires that are 14 or more inches in nominal width. The maximum tire weight limit is computed for wide-base tires based on the number of inches shown on the tire marking, or if the tire marking is shown by metric size, the tire weight limit is computed by conversion of the metric size.

(3) This section does not apply to highways that are a part of the national system of interstate and defense highways (as referred to in 23 U.S.C. 127) when application of this section would prevent this state from receiving federal funds for highway purposes.

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LICENSING / REGISTRATION

107.02 (Standard Specifications) Permits, Licenses, and Taxes.

Obtain all legally required permits and licenses, pay all charges, fees, taxes, and fuel taxes giving all notices necessary and incidental to the lawful prosecution of the work.

** Note: Maximum GVW fees must be paid on all vehicles.

61-3-701 (MCA) Out-of-state vehicles used in gainful occupation to be registered -- reciprocity.

(1) Before a motor vehicle that is registered in another jurisdiction may be operated on the highways of this state for hire, compensation, or profit or before the owner or user of the vehicle uses the vehicle if the owner or user is engaged in gainful occupation or business enterprise in the state, including highway work, the owner of the vehicle shall register the vehicle at the office of a county treasurer or an authorized agent of the department. Upon satisfactory evidence of ownership submitted to the county treasurer or the department's authorized agent and the payment of fees in lieu of taxes or registration fees, if appropriate, as required by 15-8-201, 15-8-202, 15-24-301, 61-3-529, 61-3-537, or 61-3-560 and 61-3-561, the treasurer or authorized agent shall enter the vehicle for registration purposes only on the electronic registry maintained by the department under 61-3-101.

(2) Upon payment of the fees or taxes, the treasurer or the department's authorized agent shall issue to the vehicle owner a registration receipt and the proper license plates or other identification markers. The license plates or identification markers must at all times be displayed upon the vehicle when operated or driven upon roads and highways of this state during the registration period indicated on the receipt.

(3) The registration receipt does not constitute evidence of ownership but must be used only for

registration purposes. A Montana certificate of title may not be issued for a vehicle registered under this section.

(4) This section is not applicable to a vehicle covered by a valid and existing reciprocal agreement or declaration entered into under Montana law.

61-3-702 (MCA) Foreign vehicles to display number plates.

All foreign registered and licensed motor vehicles shall also carry in plain sight thereon the license plates or device from such other state or foreign country.

61-3-703 (MCA) Purpose.

Sections 61-3-701 and 61-3-702 shall be solely for the purpose of taxation, registration, and identification of vehicles operated in this state that have paid a license in another state or foreign country, and otherwise than as herein specifically set forth shall not be construed as a repeal of any laws or parts of laws having to do with the registration or licensing of automobiles within the state.

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FUEL

All holders of the Special Fuel Users Permit must use only clear diesel on all projects, both public and private.

Any Public Road Projects

All contractors/sub-contractors participating on any public road projects will not store or use dyed diesel in equipment, vehicles and stationary engines within the right-of-way of the public road project. Contractors or sub-contractors who use or store dyed diesel on any MDT project are in violation of MDT's contract and may be suspended for up to 6 months from participating in future MDT contracts.

When equipment and/or Special Mobile(SM)-plated vehicles are moved onto any public road project and contain dyed diesel you must:

- Call MDT at (406) 444-0806 (24 hours a day).
- Identify the equipment or vehicle.
- Provide the location of job site.

Once the equipment or SM-plated vehicles are on the project, they must be refueled with tax paid (clear) diesel. When moving equipment and/or SM-plated vehicles off any project with tax paid (clear) diesel, a refund will not be allowed for tax paid (clear) diesel fuel remaining in the supply tanks.

All vehicles must conform to laws and rules governing travel on public roads.

Permit Requirements

The Montana Department of Transportation (MDT) requires all contractors/sub-contractors that use special fuel on public road projects to:

a) Get permitted as a special fuel user (SU),
b) Submit a minimum $5,000 bond,
c) Complete and return annual renewal form,
d) The Special Fuel User must use clear fuel in all vehicles and equipment on all projects, both public and private.

Failure to complete or maintain any of the above requirements in good standing may disqualify you from participating in public projects.

Application for Permit

The application for a SU permit must be correctly completed and returned to MDT before any MDT contract is awarded to the contractor/sub-contractor. The application is a one-page form (front and back) and must be completed in its entirety. The form with original signatures must be returned to MDT. Fax copies will not be accepted. Contact # (406) 444-6130; or Web site: MDT.Gov-Doing Business tab

Bonds
The bond is to assure that all the tax, penalty and interest have been paid to the department. The following are types of bonds accepted by MDT:

- ✓ Surety bond – Acquired through an insurance company by paying premiums. Require original signatures from the insurance company.
- ✓ Certificate of Deposit (CD) – Contractor/Sub-Contractor collects the interest. The name on the CD must read as follows:" _____ (Company or Contractor's name) OR MDT".
- ✓ Cash Bond – no interest is earned.

Production of Material

Project Pit/Quarry: Equipment and vehicles used in the development and production of materials in a pit/quarry for a specific contract must use tax paid (clear) diesel. This pit/quarry is considered part of the project site and must conform to contract requirements of the project.

Permanent Pit/Quarry: This is a pit/quarry that is a permanent physical place where materials are produced and supplied to various projects. A permanent pit/quarry that supplies a public road project may use only tax paid (clear) diesel fuel in equipment and vehicles.

Any tax paid (clear) diesel used in a non-taxable manner qualifies for a refund (see definitions non-taxable). The refund may be claimed on the SU tax return if the pit/quarry owner has a SU permit. Those that do not have a SU permit can get a refund by contacting MDT for a refund application.

2005 legislation requires material used for construction, reconstruction, or improvement in connection with work performed on any public road project must be produced using tax paid (clear) diesel.

Formula to compute fuel used to produce materials for taxable projects is as follows: ARM 18.10.324

Asphalt is composed of 94% aggregate. (1cu. Yd. = 1.88 tons)
Concrete is composed of 75% aggregate. (1cu. Yd. = 2 tons)
.28 gallons per ton is based on industry average. (.13 gallons per ton may be used if electrical power is purchased from a commercial source.)

Examples:

Concrete:
100 cu. yd. of concrete = 200 tons
200 tons X .75 = 150 tons of aggregate.
150 tons X .28 = 42 gallons (diesel generator)
150 tons X .13 = 19.5 gallons (electrical power)

Asphalt:
100 cu. yd. of asphalt = 188 tons
188 tons X .94 = 176.72 tons of aggregate.
176.72 tons X .28 = 49.5 gallons.

MCS Contact List

Helena Office

Mark Moberley	(406) 444-6139 (office)	(406) 444-6136 (fax)	

Dan Moore	(406) 444-0454 (office)	(406) 444-6136 (fax)
Region-1 (Missoula)		
Captain Patrick Metzger	(406) 678-4260 (office)	(406) 544-3736 (cell)
Lieutenant Dave Green	(406) 431-2400 (cell)	
Region-1 Patrol Officers		
Joe Lavadure (Kalispell)	(406) 249-3929 (cell)	
Tracy Phillips (Haugan)	(406) 670-0351 (cell)	
Brad Marten (Missoula)	(406) 531-2933 (cell)	
Steve Schwartz (Missoula)	(406) 531-2934 (cell)	
Region-1 Weigh Stations		
Clearwater	(406) 244-5460	(406) 244-5777 (fax)
Haugan	(406) 678-4257	(406) 678-4317 (fax)
Kalispell	(406) 257-2684	(406) 756-0117 (fax)
Lima	(406) 276-3429	(406) 276-3353 (fax)
Region-2 (Butte)		
Captain Mike Poole	(406) 444-9260 (office)	(406) 490-1658 (cell)
Vacant	(406) 431-0806 (cell)	
Region-2 Patrol Officers		
Bob Colman (Bozeman)	(406) 579-3441 (cell)	
Eric Belford (Butte)	(406) 490-8699 (cell)	
Jim Kinsey (Great Falls)	(406) 390-3020 (cell)	
Myrlin Schatz (Helena)	(406) 431-6069 (cell)	
Merlin Frydenlund (Shelby)	(406) 450-2501 (cell)	
Region-2 Weigh Stations		
Armington Junction	(406) 738-4261	(406) 738-4262 (fax)
Bozeman	(406) 587-0727	(406) 586-9602 (fax)
Butte EB	(406) 782-8985	(406) 723-2135 (fax)
Butte WB	(406) 533-3699	(406) 533.3698 (fax)
Coutts (Alberta)	(403) 344-5063	(403) 344-3044 (fax)
Havre	(406) 265-9033	(406) 265-8676 (fax)
Region-2 Training Officer		
Jeff McLaughlin	(406) 431-0806	
Region-3 (Billings)		
Captain Doug Park	(406) 657-0201 (office)	(406) 698-8286 (cell)
Lieutenant Russ Christoferson	(406) 431-1269 (cell)	
Region-3 Patrol Officers		
Gene Peigneux (Billings)	(406) 670-0347 (cell)	
Brian Dandrea (Billings)	(406) 471-6283 (cell)	
Dan Bidwell (Broadus)	(406) 670-0350 (cell)	
Jerry Switzer (Circle)	(406) 250-2066 (cell)	
Kevin Adkins (Hardin)	(406) 670-0348 (cell)	
Linda Hoagland (Wibaux)	(406) 670-0349 (cell)	
Region-3 Weigh Stations		
Billings (eastbound)	(406) 657-0204	(406) 657-0934 (fax)
Billings (westbound)	(406) 657-0203	(406) 657-0933 (fax)
Broadus	(406) 436-2531	(406) 436-2813 (fax)
Crow Agency	(406) 638-2210	(406) 638-4488 (fax)
Culbertson	(406) 787-5323	(406) 787-6113 (fax)
Wibaux	(406) 345-8254	(406) 345-8293 (fax)